

**Monthly Progress Report
January 2018 Progress Report
Crab Orchard National Wildlife Refuge
AUS OU RI/FS**

Actions Taken to Comply with Consent Order

During the month of January 2018, activities of significance included:

1. Preparation of AOC mandated reports.
2. The final sampling event for the Natural Attenuation (NA) Study QAPP, except for the three TCE cometabolism samples (inclusive of ¹⁴C), was performed the week of January 1, 2018. The excluded samples will be collected as soon as the lab re-opens during March 2018 (FWS subsequently indicated at the January 23rd TWG meeting that a decision to collect these samples will be made at that time).
3. S&W circulated the final revisions to the NA QAPP to FWS and USEPA on January 5th
4. S&W and FWS/ SRS convened an FS status meeting on January 11th. Discussion topics included the following:
 - AUS A11S Sewer – The parties agreed that the source of the TCE soil gas measurement by SRS at the northeast of the area boundary was inconclusive based on data collected to date.
 - USACE and USEPA review comments to the FS Pilot Report (received December 13, 2017) – USACE's general comments focused on its interpretation regarding AUS OU CERCLA requirements, along with specific comments on the Pilot Report. USEPA's general comments included detail on the nature and extent of contamination, as well as general and specific comments regarding FS Report guidance. S&W confirmed it planned to address the specific comments regarding FS report alternatives comparisons and the RACER® cost estimating software at the TWG meeting.
 - Revised Intermediate Action Plume Alternative – This alternative will be considered at groundwater plume remedy areas where elevated VOC sources and plume/ surface water discharge areas were identified. In a departure from the FS Pilot, this alternative will assume no active intervention for the dissolved phase portions of the plume, limiting the remedy to long-term monitoring. Unlike the alternatives comparison in the FS Pilot Report, the revised alternative's comparison evaluation will discuss ARAR compliance separately from remedy durations.
 - Remedy Areas at AUS 0001, 0A4W north cadmium patch, AUS 0A09 Plume 1 – Because repeated sampling at one well at 0A09 Plume 1 showed ARAR exceedances, this plume will remain in the draft FS report. For the other two areas, FWS will provide a technical memo evaluating if it believes either area should remain in the FS.
 - Groundwater Risk Assessment – FWS indicated it will internally discuss the USACE's and USEPA's comments to this document prior to the TWG meeting.
 - AUS 0A8S Copper Pond – As previously described in earlier monthly reports, FWS indicated it is evaluating a time-critical removal action for this remedy area in early 2018 to divert inflow. The Agency confirmed that no costs for this action will be sought for reimbursement.
5. FWS confirmed a February 7, 2017 conference for the Agencies to discuss the historical derivation of ecological PRGs on January 16th (see Item 8 in the December Progress Report submitted to FWS).

6. FWS circulated the presentations to be discussed at the January 23rd Stream Workshop meeting to the attendees on January 19th.
7. FWS informed S&W that it was considering removing any references to human health risk in the Groundwater Risk Assessment on January 18th.
8. S&W attended the TWG and Stream Workshop meetings held on January 23rd. Discussion items were as follows:

TWG Meeting

- AUS 0A07 Pesticide EE/CA – FWS confirmed the final EE/CA Report had been circulated for public comment in preparation for the public meeting to be held the following day on January 24th. The Agency indicated that this non-time critical removal action should be completed by early 2019. (Note that as part of this discussion FWS stated it will plan an open-house for the AUS OU like that held for the pesticide EE/CA during June 2017, following submittal of the draft FS Report later in 2018.
- PCB OU – An update regarding the pump and treatment system for PCB OU Plume I was provided. USEPA indicated the interim ROD for Plume II was on hold pending negotiations with Schlumberger.
- AUS OU
 - AUS A11S Sewer – The conclusions regarding these data discussed during the January 11th meeting were described. FWS/ SRS confirmed it will prepare a fact sheet regarding these findings for the Agencies. FWS added that a future investigation at this area may be needed.
 - NA Study – S&W provided an update on sampling status along with a general overview of the preliminary data received to date for the November 2017 sampling. These results confirmed measurable contaminant declines at wells within the dissolved phase portions of the sampled plumes compared to the RI data. Indicators of biological activity were generally low. These data preliminarily show that dilution is a primary attenuation mechanism at the subject plumes and current biodegradation processes are limited. Microbial analyses are pending.
 - FS Pilot Report/ Revised VOC Plume(s) Intermediate Alternative – The approach discussed at the January 11th meeting (Item 4, 3rd bullet) was described.
 - FS Pilot Report/ RACER® Review Comments – S&W indicated following consultation with an FWS Washington, D.C. economist, that a two percent discount rate will be applied for all technology costs in the draft FS Report. This will replace the approximate two percent RACER® default escalation rate provided in the FS Pilot Report. USACE indicated that independent audits had been performed on RACER® costs for other Department of Defense FS analyses; USEPA responded that an independent audit for the AUS OU FS costs were unneeded. However, FWS added that its headquarters had selected the CAA Memo documents for an independent audit as part of its environmental disposal liability program. This audit may provide comments on the RACER® estimates described therein.
 - Groundwater Risk Assessment – FWS stated that it was considering USACE's and USEPA's comments and will provide a revised document by the end of February. FWS also confirmed it is evaluating removing references to residential/potable groundwater uses to make it consistent with the AUS OU human health risk assessment.

- Draft FS Report Schedule – S&W proposed a target date for early summer (July 2018) for completion of the Draft FS Report. Assuming a four-month review period, a suggested target date for the second draft is January 1, 2019.

Stream Workshop – Nine brief presentations addressing an overview of surface water conditions at the AUS OU, groundwater/ surface water interaction, acid mine drainage and associated sediment remedy technologies, contaminant inventories at select FWS Refuges, surface water monitoring technologies, and surface water monitoring studies on diurnal effects (i.e. time of day/ sunlight) were provided. Attendees included representatives from GD-OTS, FWS, Illinois EPA, USGS and Southern Illinois University.

9. FWS notified the Agencies that the February 7th conference call to discuss derivation of the ecological PRGs (Item 5) had been postponed to a yet undetermined date, on January 25th.

Results of Sampling and Tests

The initial NA QAPP samples were collected the week of November 6, 2017, and additional samples were collected the week of January 1, 2018. Preliminary results for a portion of the November event were received on January 17, 2018.

Work Planned for the Next Two Months

During the months of February and March 2018 planned activities include:

1. S&W will continue preparation of the draft FS Report.

Problems Encountered

None.